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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/748,260	12/31/2003	Jensen Lee	SUND 497	6982
23995	7590	06/11/2007	EXAMINER	
RABIN & Berdo, PC 1101 14TH STREET, NW SUITE 500 WASHINGTON, DC 20005			PEREZ, ANGELICA	
		ART UNIT	PAPER NUMBER	
		2618		
		MAIL DATE	DELIVERY MODE	
		06/11/2007	PAPER	

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	Application No.	Applicant(s)
	10/748,260	LEE ET AL.
	Examiner Perez M. Angelica	Art Unit 2618

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) Responsive to communication(s) filed on 16 March 2007.
- 2a) This action is FINAL.                    2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) Claim(s) 1-22 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) Claim(s) \_\_\_\_\_ is/are allowed.
- 6) Claim(s) 1-22 is/are rejected.
- 7) Claim(s) \_\_\_\_\_ is/are objected to.
- 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on \_\_\_\_\_ is/are: a) accepted or b) objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) All    b) Some \* c) None of:
  1. Certified copies of the priority documents have been received.
  2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- 1) Notice of References Cited (PTO-892)
- 2) Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.

- 4) Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) Notice of Informal Patent Application
- 6) Other: \_\_\_\_\_.

## DETAILED ACTION

### ***Claim Rejections - 35 USC § 112***

1. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

2. Claim 10 is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

The Examiner could not find, in the specification, support for the limitation that reads, "wherein sound generated by the receiver is transmitted through both of the at least one first aperture and the at least one second aperture when the cover is unfolded from the base". For purposes of examination, claim 10 and its dependent claims will be provisionally rejected.

Rejected Claims 11-22 depend on claim 10; therefore, they are rejected for the same reasons as set forth above.

### ***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said

subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1-2, 4 and 6-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kim et al. (Kim, EP 0977414 A2) in view of Mizuta et al. (Mizuta, US Patent No.: 7,158,816 B1).

Regarding claim 1, Kim teaches of a portable electronic communication device comprising (figure 1): a base having a front surface (figure 2, where the front surface comprises the keyboard and display); a cover (figure 1, item 102), which is mounted to the base in such a way that the cover can be folded upon (figure 1), unfolded from (figure 2) and turned around the base (figure 2, item 102 and paragraph 15, where the cover can turn around to contact the base), where the cover has a compartment (where the compartment holds items seen in figure 3), a front surface (figure 1, where the front surface can be the surface facing the outside), and a rear surface (figure 2, where the rear surface can be the surface facing the inside), where the front surface of the cover has a plurality of first apertures (figure 6, item 224) and the rear surface of the cover has a plurality second apertures (figure 5, item 220), and the compartment communicates with an outside of the cover through the first apertures and the second apertures (paragraph 17); and a receiver deposited in the compartment between the first apertures and the second apertures (paragraphs 17 and 18), where sound generated by the receiver can be transmitted through the second apertures when the cover is folded upon the base so that the front surface of the cover rests against the front surface of the base (paragraph 19).

Kim does not teach where sound generated by the receiver is transmitted through the first apertures when the cover is turned around and then folded upon the base so that the rear surface of the cover rests against the front surface of the base.

In related art concerning a foldable and portable mobile communication terminal, Mizuta teaches where sound generated by the receiver is transmitted through the first apertures when the cover is turned around and then folded upon the base so that the rear surface of the cover rests against the front surface of the base (figures 3 and 4, where speaker 203 projects /voice/sound to the outside. See also columns 3 and 4., lines 66-67 and 1-7, respectively).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine Kim's foldable device with Mizuta's positioning of the cover in order to provide versatility to a mobile unit, as taught by Mizuta.

Regarding claim 2, Kim and Mizuta teach all the limitations according to claim 1. Kim further teaches where the first apertures have a total cross-sectional area, which is substantially the same as that of the second apertures (figure 3, where it can be seen that the cross-sectional area of both apertures is the same).

Regarding claim 6, Kim and Mizuta teach all the limitations according to claim 1. Kim further teaches of an operating button for inputting command (paragraph 21 and figure 1, item 114).

Regarding claim 7, Kim and Mizuta teach all the limitations according to claim 1. Kim further teaches of a microphone deposited inside the cover for receiving voice of a user of the device (paragraph 2).

Regarding claim 8, Kim and Mizuta teach all the limitations according to claim 1.

Kim further teaches of a speaker deposited inside the cover (figure 2, item 124), the speaker generating sound while the cover is unfolded from the base (paragraph 19).

Regarding claim 9, Kim and Mizuta teach all the limitations according to claim 1.

Kim further teaches of a keyboard deposited on the front surface of the base for inputting data or command (figure 2, item 116).

Regarding claim 4, Kim and Mizuta teach all the limitations according to claim 1.

Mizuta further teaches where a display panel is deposited on the front surface of the cover for displaying data of the device (figures 1 and 2, items 206 and 202, respectively; where both sides of the cover comprise displays).

5. Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kim in view of Mizuta and further in view of Hwang, Seon-Woong (Hwang, US Patent No.: 7103393 B2).

Regarding claim 3, Kim and Mizuta teach all the limitations according to claim 1.

Kim further teaches where the receiver divides the compartment into a first sub-compartment and a sub-second compartment, the first sub-compartment and the second sub-compartment communicate with the outside of the cover through the first apertures and the second apertures respectively (paragraphs 21 and 29; figure 3).

Kim and Mizuta do not specifically teach where the first sub-compartment has a volume which is substantially equal to that of the second sub-compartment.

In relate art concerning a sound output system and method of a mobile communication terminal, Hwang teaches where the first sub-compartment has a volume

which is substantially equal to that of the second sub-compartment (column 4, lines 19-22 and 40-54).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine Kim's and Mizuta's foldable device with Hwang's symmetrical speaker arrangement in order to obtain the same volume sound; thus, getting higher quality of sound, as taught by Hwang.

6. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kim in view of Mizuta and further in view of Tyneski et al. (Tyneski, US Patent No.: 5584054 A).

7. Regarding claim 5 Kim and Mizuta teach all the limitations according to claims 1 and 20, respectively.

Kim and Mizuta do not specifically teach where the display panel is a touch display panel adapted to be activated by a stylus.

Tyneski teaches where the display panel is a touch display panel adapted to be activated by a stylus (figure 2, item 112 and claims 1-2).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine Kim's and Mizuta's foldable device with Tyneski's stylus activated display in order to "send handwritten data to the display when the flap is closed, as taught by Tyneski.

8. Claims 10, 11, 13-14 and 19-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kim in view of Mizuta and further in view of D'Souza, Winard (D'Souza, EP 001091539A2).

Regarding claim 10, Kim teaches of a portable electronic communication device comprising (figure 1): a base having a front surface (figure 2); a cover mounted to the base in such a way that the cover can be folded upon (figure 1, item 102), unfolded from (figure 2) and turned around the base (figure 2, item 102, where it can turn around to contact the base and paragraph 15), the cover having a front surface (figure 1, where the front surface can be the surface facing the outside) defining at least one first aperture and a rear surface defining one second aperture (figures 1 and 2, items 118 and 124, respectively), and a receiver deposited inside the cover where sound generated by the receiver is transmitted through the at least one second aperture when the cover is folded upon the base so that the front surface of the cover (paragraph 17-19).

Kim does not specifically teach of a display mounted in cover and where sound generated by the receiver is transmitted through the first apertures when the cover is turned around and then folded upon the base so that the rear surface of the cover rests against the front surface of the base.

Mizuta teaches of a display mounted in cover (figures 1 and 2, items 206 and 202, respectively; where both sides of the cover comprise displays) and where sound generated by the receiver is transmitted through the first apertures when the cover is turned around and then folded upon the base so that the rear surface of the cover rests

against the front surface of the base (figures 3 and 4, where speaker 203 projects voice/sound to the outside. See also columns 3 and 4., lines 66-67 and 1-7, respectively).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine Kim's foldable device with Mizuta's positioning of the cover in order to provide versatility to a mobile unit, as taught by Mizuta.

Kim and Mizuta do not specifically teach where sound generated by the receiver is transmitted through both of the at least one first aperture and the at least one second aperture when the cover is unfolded from the base.

In related art concerning a portable electronic device, D'Souza teaches where sound generated by the receiver is transmitted through both of the at least one first aperture and the at least one second aperture when the cover is unfolded from the base (figure 5 and paragraph 24, where both outlet 25 and 25 project sound, where the "outlet 25 is attenuated more than that from the transducer 28 to the hands-free outlet 27").

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine Kim's and Mizuta's combined device with D'Souza's generation of sound through the two apertures in order to obtain output sound higher than when the one outputted when the electronic device is in the closed position, D'Souza.

Regarding claim 11, Kim, Mizuta and D'Souza teach all the limitations according to claim 10. Kim further teaches of a keyboard deposited on the front surface of the base for inputting data or command (figure 2, item 116).

Regarding claim 13, Kim, Mizuta and D'Souza teach all the limitations according to claim 10. Kim further teaches of a speaker deposited inside the cover (figure 2, item 124), where the sound generated by the speaker is transmitted to an outside of the cover when the cover is unfolded from the base (paragraph 19).

Regarding claim 14, Kim, Mizuta and D'Souza teach all the limitations according to claim 10. Kim further teaches of a microphone for receiving voice of a user of the device (paragraph 2).

Regarding claim 19, Kim, Mizuta and D'Souza teach all the limitations according to claim 10. Kim further teaches where the base is equipped with a (figure 2, item 116), and the cover is further equipped with a microphone for receiving voice of a user of the device (paragraph 2).

Regarding claim 20, Kim, Mizuta and D'Souza teach all the limitations according to claim 19. Kim further teaches where of a speaker which generates sound when the cover is unfolded from the base.

9. Claim 21 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kim in view of Mizuta and D'Souza, and further in view of Tyneski et al. (Tyneski, US Patent No.: 5584054 A).

Regarding claim 21, Kim, Mizuta and D'Souza teach all the limitations according to claims 1 and 20, respectively.

Kim, Mizuta and D'Souza do not specifically teach where the display panel is a touch display panel adapted to be activated by a stylus.

Tyneski teaches where the display panel is a touch display panel adapted to be activated by a stylus (figure 2, item 112 and claims 1-2).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine Kim's, Mizuta's and D'Souza's foldable device with Tyneski's stylus activated display in order to "send handwritten data to the display when the flap is closed, as taught by Tyneski.

10. Claims 12 and 15-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kim in view of Mizuta and D'Souza, and further in view of Hwang.

Regarding claim 12, Kim, Mizuta and D'Souza teach all the limitations according to claim 11. Kim further teaches where one first aperture has a cross-sectional area which is substantially the same as that of one-second aperture (figure 3, where it can be seen that the cross-sectional area of both apertures is the same).

Kim, Mizuta and D'Souza do not specifically teach where the first sub-compartment has a volume which is substantially equal to that of the second sub-compartment.

In relate art concerning a sound output system and method of a mobile communication terminal, Hwang teaches where the first sub-compartment has a volume which is substantially equal to that of the second sub-compartment (column 4, lines 19-22 and 40-54).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine Kim's, Mizuta's and D'Souza device with Hwang's symmetrical speaker arrangement in order to obtain the same volume sound; thus, getting higher quality of sound, as taught by Hwang.

Regarding claim 15, Kim, Mizuta and D'Souza teach all the limitations according to claim 10.

Kim, Mizuta and D'Souza do not specifically teach where the at least one first aperture has a cross-sectional area which is substantially equal to that of the at least one second aperture.

Hwang teaches where the at least one first aperture has a cross-sectional area which is substantially equal to that of the at least one second aperture (figure 3, where it can be seen that the cross-sectional area of both apertures is the same).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine Kim's, Mizuta's and D'Souza's device with Hwang's symmetrical speaker arrangement in order to obtain the same volume sound; thus, getting higher quality of sound, as taught by Hwang.

Regarding claim 16, Kim, Mizuta and D'Souza teach all the limitations according to claim 10.

Kim, Mizuta and D'Souza do not specifically teach where the receiver is deposited inside a compartment in the cover, and divides the compartment into two sub-compartments having substantially the same volume.

Hwang teaches where the receiver is deposited inside a compartment in the cover, and divides the compartment into two sub-compartments having substantially the same volume (figure 3, where it can be seen that the cross-sectional area of both apertures is the same).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine Kim's, Mizuta's and D'Souza's device with Hwang's symmetrical speaker arrangement in order to obtain the same volume sound; thus, getting higher quality of sound, as taught by Hwang.

Regarding claim 17, Kim, Mizuta D'Souza teach all the limitations according to claim 13.

Kim, Mizuta and D'Souza do not specifically teach where the at least one first aperture has a cross-sectional area which is substantially the same to that of the at least one second aperture.

Hwang teaches where the at least one first aperture has a cross-sectional area which is substantially the same to that of the at least one second aperture (figure 3, where it can be seen that the cross-sectional area of both apertures is the same).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine Kim's, Mizuta's and D'Souza's device with Hwang's symmetrical speaker arrangement in order to obtain the same volume sound; thus, getting higher quality of sound, as taught by Hwang.

Regarding claim 18, Kim, Mizuta and D'Souza and Hwang teach all the limitations according to claim 17.

Hwang further teaches where the receiver is deposited inside a compartment in the cover and divides the compartment into two sub-compartments communicating with the at least one first and the at least one second aperture, respectively, the two sub-compartments having substantially the same volume (figure 3, where it can be seen that the cross-sectional area of both apertures is the same).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine Kim's, Mizuta's, D'Souza's and Hwang's device with Hwang's further teachings about a symmetrical speaker arrangement in order to obtain the same volume sound; thus, getting higher quality of sound, as taught by Hwang.

11. Claim 22 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kim in view of Mizuta and D'Souza and further in view of Hageltorn et al. (Hageltorn, US Patent No.: 6006117 A).

Regarding claim 22, Kim, Mizuta and D'Souza teach all the limitations according to claim 21.

Kim, Mizuta and D'Souza do not specifically teach where the microphone receives the voice of the user through aperture defined in an lateral surface of the cover, said lateral surface being between the front and rear surfaces of the cover.

In related art concerning a radio telephone with separate antenna for stand-by mode, Hageltorn teaches teach where the microphone receives the voice of the user through aperture defined in an lateral surface of the cover, said lateral surface being between the front and rear surfaces of the cover (figure 6a, item 74;where the microphone is located between the front and rear faces of the front cover).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine Kim's and Mizuta's D'Souza's device with Hageltorn's positioning of the microphone in order to so that the user can talk on the microphone when making/receiving a call.

***Response to Arguments***

12. Applicant's arguments with respect to claims 1-22 have been considered but are moot in view of the new ground(s) of rejection.

***Conclusion***

13. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

14. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Angelica Perez whose telephone number is 571-272-7885. The examiner can normally be reached on 6:00 a.m. - 1:30 p.m., Monday - Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Matthew D. Anderson can be reached on (571) 272-4177. The fax phone numbers for the organization where this application or proceeding is assigned are 571-273-8300 for regular communications and for After Final communications.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either the PAIR or Public PAIR. Status information for unpublished applications is available through the Private PAIR only. For more information about the pair system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). Information regarding Patent Application Information Retrieval (PAIR) system can be found at 866-217-9197 (toll-free).

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the TC 2600's customer service number is 703-306-0377.



Angelica Perez  
Examiner



MATTHEW ANDERSON  
SUPERVISORY PATENT EXAMINER

Art Unit 2618

May 31, 2007